

Site: Shiloh Church Road Site

Task: GWS and Rad Hotspots

Date: 8/7/19

Predicted Predominant Wind Direction: SW

Predicted Maximum Wind Speed: 5



Ludlum 3030 Serial Number:	187982	Cal Due Date:	2/19/2020
Th-230 4π efficiency:	0.3244	Tc-99 4π efficiency:	0.3155
Pu-239 4π efficiency:	0.3996	C-14 4π efficiency:	0.0679
Am-241 4π efficiency:	0.3452	Sr-90 4π efficiency:	0.4264

Notes:

Radionuclide Air Sampling
Daily Summary
Shiloh Church Road Site
Halifax County, Virginia

Date: 8/7/19

Predicted Predominant Wind Direction: SW

Public Results

Effluent Limits	Alpha (Ra-226)	9.00E-13	Beta (Pb-210)	6.00E-13
Air Sampler Location	% Of Effluent Concentration Limit	Alpha Result	% Of Effluent Concentration Limit	Beta Result
Perimeter-1 - Northeast perimeter	<2.03%	-9.14E-16	<96.97%	9.65E-14

Worker Results

Derived Air Concentrations	Alpha (Ra-226)	3.00E-10	Beta (Pb-210)	1.00E-10
Tasks Monitored	% Of DAC	Alpha Result	% of DAC	Beta Result
AC-1 - GWS Team	<0.09%	1.58E-13	<8.84%	-1.01E-12
AC-5 - Hotspot Team	<0.10%	-1.98E-14	<9.95%	-1.81E-11

Comments:

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Air Sampling Unit: Radeco H-810 ERT-148

Calibrator Serial: 3267

Cal Due Date: 8/9/19

α isotope of concern

Ra-226

β isotope of concern

Pb-210

Start Date/Time	8/7/19 8:40				Stop Date/Time				8/7/19 14:30				
					Total Liters				36,185				
Analysis Date/Time	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μ Ci/mL)	α (μ Ci/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μ Ci/mL)	β (μ Ci/mL)
8/15/19 13:05	190.6	120	70	92	52	-0.02	1.83E-14	-9.14E-16	4826	2852	0.53	5.82E-13	9.65E-14
Final Result	Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μ Ci/mL)	α (μ Ci/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μ Ci/mL)	β (μ Ci/mL)
8/15/19 13:05	190.6	120	70	92	52	-0.02	1.83E-14	-9.14E-16	4826	2852	0.53	5.82E-13	9.65E-14
							% Eff Criteria:	<2.03%				% Eff Criteria:	<96.97%

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Air Sampling Unit: AirCheck XR5000 AC-1

Dry Cal Serial: 30709

Cal Due Date: 7/11/20

Dry Cal Serial: 30709					Cal Due Date: 7/11/20					α isotope of concern			Ra-226		β isotope of concern			Pb-210	
Pre Flow Rate (LPM)		4.713					Post Flow Rate (LPM)					4.998							
Start Date/Time		8/7/19 8:47					Stop Date/Time					8/7/19 17:05							
							Total Liters					2267.5							
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
8/9/19 10:50		41.8	120	80	86	78	0.26	2.69E-13	1.58E-13	4759	3145	-0.35	8.84E-12	-1.01E-12					
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)					
8/9/19 10:50		41.8	120	80	86	78	0.26	2.69E-13	1.58E-13	4759	3145	-0.35	8.84E-12	-1.01E-12					
								% DAC:	<0.09%				% DAC:	<8.84%					

Notes: Assigned to GWS Team.

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Air Sampling Unit: AirCheck XR5000 AC-5

Dry Cal Serial: 30709

Cal Due Date: 7/11/20

Dry Cal Serial: 30709					Cal Due Date: 7/11/20					α isotope of concern				Ra-226		β isotope of concern				Pb-210	
Pre Flow Rate (LPM)		4.688					Post Flow Rate (LPM)					4.916									
Start Date/Time		8/7/19 9:44					Stop Date/Time					8/7/19 16:55									
							Total Liters					1944.8									
Analysis Date/Time		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
8/9/19 12:30		43.6	120	90	86	62	-0.03	3.01E-13	-1.98E-14	4759	3091	-5.31	9.95E-12	-1.81E-11							
Final Result		Hours After Collection	Bkg count time (min)	Sample count time (min)	α bkg (counts)	gross α (counts)	net α (cpm)	α MDA (μCi/mL)	α (μCi/mL)	β bkg (counts)	gross β (counts)	net β (cpm)	β MDA (μCi/mL)	β (μCi/mL)							
8/9/19 12:30		43.6	120	90	86	62	-0.03	3.01E-13	-1.98E-14	4759	3091	-5.31	9.95E-12	-1.81E-11							
								% DAC:	<0.10%					% DAC:	<9.95%						

Notes: Assigned to Hotspot Team.